

# Cometary Cell C2091

## Images

**Aerogel Cell:** [C2091-01.jpg](#)  
[C2091\\_T1\\_20x.jpg](#)

**Cell History:** Cell C2091 was removed from the cometary grid on May 18, 2006 and the tile transferred to the remote curation storage facility in White Sands, New Mexico. This sample is not available for allocation.

**Track Information:** The tile has several small-sized tracks.

## Feature Images

## Allocation History

## Results

## Log Entries

**Note:** All track / features (e.g., T1) numbers assigned during the Level 3 scanning are to be considered “**Temporary**” and in do not relate to the “Official” track number that is assigned when a given features is extracted (e.g., Keystoned) from a tile. Abbreviations: EH – Entrance Hole, TP – Terminal Particle, MTW – Maximum Track / Bulb Width, TL – Track Length.

### 06-02-06 – T.H. See

Removed Cell **C091** from sample cabinet and mounted in to the Level 3 fixture in the Level 2 orientation.

Set up system to conduct the Depth Profiles.

Before scanning for track, this tile shows the man-made fiducial marks better than any of the previous tiles. Thus, I will spend a short time documenting those in the horizontal (level) position before tilting the tile.

Left Front Fiducial – Appear normal to the tile surface and extends ~1200  $\mu\text{m}$  in to the tile.

Left Rear Fiducial – This one is too visible but fuzzy due to the image having to pass through nearly the entire tile of aerogel. Length is on the order of 1 mm. The mark does appear to be normal to tile surface at least that can be determined visually.

Right Rear Fiducial – Again, a first. Appears to be on the order of 800  $\mu\text{m}$  in length, but like the other rear counterpart, detail is fuzzy due to blurring from the aerogel.

Right Front Fiducial – Clearly visible and ~1,400  $\mu\text{m}$  deep. Appears to be fairly normal to tile surface. Measured 1,435 at the inclined angle to compare to the Previous 1,400.

### Tracks

C091-T1 – Nice carrot track with three stylus or bifurcations emanating out of the bottom of the track. Terminal particles visible on all three track, although the one at the bottom of the longest track is the largest. Bifurcation lengths are ~ 1574 (1596 From Side [FS]), 1200 (1303 FS), & 1540 (1579). These

will be compared to the perpendicular measurements of the same items. Entrance hole on the order of 40  $\mu\text{m}$  in size while the widest point of the track is  $\sim 170 \mu\text{m}$  wide. Largest Terminal Particle is on the order of 10 to 15  $\mu\text{m}$  in size. When measured on the T1-T2 combined image, the longest stylus is  $\sim 2225 \mu\text{m}$ .

C091-T2 – Although smaller, another nice bifurcated track. Then is more bulbous in shape with two stylus out the bottom of the bulb. The longer track is  $\sim 820$  (844 FS)  $\mu\text{m}$ , while the shorter is  $\sim 730 \mu\text{m}$ ; again to be compared to the side view for measurement calibration. Entrance hole is  $\sim 50 \mu\text{m}$  and max bulb width is  $185 \mu\text{m}$ .

C091-T3 – Smallish track near the front surface. Angle measure is  $\sim 515$  (530 FS)  $\mu\text{m}$ . Entrance hole diameter is  $\sim 16 \mu\text{m}$  but fuzzy. Max width is  $\sim 44 \mu\text{m}$ . Terminal particle that is visible appears to be on the order of  $11 \mu\text{m}$ .

C091-T4 & T5 – Fairly positive about T5 as I can see what appears to be a terminal particle. T4 on the other hand show no “obvious” terminal particle, although it may be obscured by the white surface feature that projects directly behind it on the image. T5 measures  $\sim 225 \mu\text{m}$ ; T4 is on the order of  $\sim 300 \mu\text{m}$  in length. T5 particle is less than  $10 \mu\text{m}$  in size. MTW is  $\sim 23 \mu\text{m}$  &  $16 \mu\text{m}$ , respectively.

C091-T6 – Nicely shaped small carrot track. Track measures  $\sim 288$  (301 FS)  $\mu\text{m}$  at angle. Entrance hole is  $\sim 14 \mu\text{m}$  across and max width is  $\sim 33 \mu\text{m}$ . Terminal particle is visible but  $< 5 \mu\text{m}$  in size.

Level cell on the Level 3 fixture and relieved the pressure from the device to on the tile to take images of the front fiducial marks in the “Relaxed” orientation. Also took images of several tracks in the side direct side view to compare measurements with that of the angular view.

Mounted backlight apparatus for Top View images at 7x and 20x.

Completed tile around 2:00 pm. Removed and placed back in sample container and in storage cabinet.